The Model 25S1G4A is a solid state, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Housed in a stylish contemporary cabinet, the unit is designed for benchtop use, but can be removed from the cabinet for immediate equipment rack mounting.

The 25S1G4A, when used with a sweep generator, will provide a minimum of 25 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 25S1G4A is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the RF input level is increased above 0 dBm. The RF amplifier stages are protected from over-temperature by removing the DC voltage to them if an over-temperature condition occurs due to cooling blockage or fan failure. There is a digital display on the front panel to indicate the operate status and fault conditions if an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 25S1G4A digital panel provides control of all amplifier functions both locally and remotely via IEEE-488 (GPIB) or RS-232 interfaces.

The low level of spurious signals and linearity of the Model 25S1G4A make it ideal for use as a driver amplifier in testing wireless and communication components and subsystems. It can be used as a test instrument covering multiple frequency bands and is suitable for a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM etc. It is also suitable for EMC Test applications where undistorted modulation envelopes are desired.

25S1G4A Typical Performance

![Graph showing typical performance of 25S1G4A amplifier](image-url)
SPECIFICATIONS, MODEL 25S1G4A

RATED POWER OUTPUT ................................................25 watts minimum
INPUT FOR RATED OUTPUT ..........................................1.0 milliwatt maximum

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ................................................. 32 watts
- Minimum ................................................. 25 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ................................................. 27 watts
- Minimum ................................................. 20 watts

FLATNESS ................................................................ ±1.5 dB typical
- ±2.0 dB maximum

FREQUENCY RESPONSE .............................................0.8 – 4.2 GHz instantaneously

GAIN (at maximum setting) .........................................44 dB minimum

GAIN ADJUSTMENT ..................................................(Continuous Range)
- 10 dB minimum
- (4096 steps remote)

INPUT IMPEDANCE ...................................................50 ohms

OUTPUT IMPEDANCE ..................................................50 ohms, nominal

MISMATCH TOLERANCE ............................................100% of rated power without foldback. Will operate without damage or
oscillation with any magnitude and phase of source and load
impedance. (See Application Note #27)

MODULATION CAPABILITY ........................................Will faithfully reproduce AM, FM, or pulse Modulation appearing on
the input signal

THIRD ORDER INTERCEPT ......................................See chart. The third order intercept points for this chart have been
determined using two tones spaced 1 MHz apart. This is typical for W-
CDMA systems. Closer tone spacing such as 60 kHz generally provides
about a 1db to 3db improvement in the IP.

HARMONIC DISTORTION .........................................Minus 20 dbc, max at 20 watts

SPURIOUS ............................................................Minus 73 dbc Typ.

PHASE LINEARITY ..................................................± 1.0 deg/100 MHz, Typ

PRIMARY POWER ................................................(Selected Automatically)
- 90-132, 180-264 VAC
- 50/60 Hz, single phase
- 340 watts maximum

CONNECTORS
- RF .................................................................Type N female

REMOTE INTERFACES
- IEEE-488 ....................................................24 pin female
- RS-232 ..........................................................9 pin Subminiature D (female)

SAFETY INTERLOCK ..................................................15 pin Subminiature D

COOLING ..............................................................Forced air (self contained fans)
## MODEL CONFIGURATIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>RF INPUT</th>
<th>RF OUTPUT</th>
<th>WEIGHT</th>
<th>SIZE (W x H x D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25S1G4A</td>
<td>Type N female on front panel</td>
<td>Type N female on front panel</td>
<td>35.0 kg (77.0 lb)</td>
<td>50.3 x 20.3 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19.8 x 8.0 x 21.5 in</td>
</tr>
<tr>
<td>25S1G4AM1</td>
<td>Type N female on rear panel</td>
<td>Type N female on rear panel</td>
<td>35.0 kg (77.0 lb)</td>
<td>50.3 x 20.3 x 54.6 cm</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>19.8 x 8.0 x 21.5 in</td>
</tr>
<tr>
<td>25S1G4AM2</td>
<td>Same as 25S1G4A with enclosure</td>
<td>Same as 25S1G4A with enclosure</td>
<td>25.6 kg (57.0 lb)</td>
<td>48.3 x 17.8 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td>removed for rack mounting</td>
<td>removed for rack mounting</td>
<td></td>
<td>19.0 x 7.0 x 21.5 in</td>
</tr>
<tr>
<td>25S1G4AM3</td>
<td>Same as 25S1G4AM1 with enclosure</td>
<td>Same as 25S1G4AM1 with enclosure</td>
<td>25.6 kg (57.0 lb)</td>
<td>48.3 x 17.8 x 54.6 cm</td>
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<td>removed for rack mounting</td>
<td>removed for rack mounting</td>
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<td>19.0 x 7.0 x 21.5 in</td>
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<tr>
<td>25S1G4AM4</td>
<td>Type N female on front panel</td>
<td>4 SMA females on rear panel</td>
<td>35.0 kg (77.0 lb)</td>
<td>50.3 x 20.3 x 54.6 cm</td>
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<td>19.8 x 8.0 x 21.5 in</td>
</tr>
<tr>
<td>25S1G4AM5</td>
<td>Type N female on front panel</td>
<td>Type N female on rear panel</td>
<td>25.6 kg (57.0 lb)</td>
<td>48.3 x 17.8 x 54.6 cm</td>
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<td></td>
<td></td>
<td>19.0 x 7.0 x 21.5 in</td>
</tr>
<tr>
<td>25S1G4AM6</td>
<td>Same as 25S1G4A with an internal</td>
<td>Same as 25S1G4A with internal</td>
<td>35.0 kg (77.0 lb)</td>
<td>50.3 x 20.3 x 54.6 cm</td>
</tr>
<tr>
<td></td>
<td>40 dB directional coupler.</td>
<td>40 dB directional coupler.</td>
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<td>19.8 x 8.0 x 21.5 in</td>
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<td></td>
<td>The forward and reflected output</td>
<td>The forward and reflected output</td>
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<td>sample ports are Type N</td>
<td>sample ports are Type N</td>
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<td>connectors located on the front</td>
<td>connectors located on the front</td>
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<td>panel.</td>
<td>panel.</td>
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